AQA – Sequences – GCSE Mathematics Paper-1

1. May/2020/Paper_1F/No.21

(a) All the terms of a **geometric** progression are positive.

The second and fourth terms are shown.

..... 4 16

Work out the first and third terms.

[2 marks]

First term _____

Third term _____

(b) The first two terms of an **arithmetic** progression are shown.

p $5p$ .....

The sum of the first three terms is 90

Work out the value of p.

[3 marks]

Answer _____

2. May/2020/Paper_1H/No.9

(a) All the terms of a **geometric** progression are positive.

The second and fourth terms are shown.

..... 4 16

Work out the first and third terms.

[2 marks]

First term _____

Third term _____

(b) The first two terms of an **arithmetic** progression are shown.

p $5p$ .....

The sum of the first three terms is 90

Work out the value of p.

[3 marks]

Answer _____

3. May/2020/Paper_1H/No.16

A sequence of numbers is formed by the iterative process

$$u_{n+1} = \frac{4}{u_n - 1} \qquad u_1 = 9$$

Work out the values of u_2 and u_3

[2 marks]

$u_2 =$ _____

$u_3 =$ _____

4. June/2019/Paper_1H/No.12

The next term of a sequence is made by adding the previous two terms.

Which of these sequences follows this rule?

Circle your answer.

[1 mark]

–9 2 –7 –5 –12

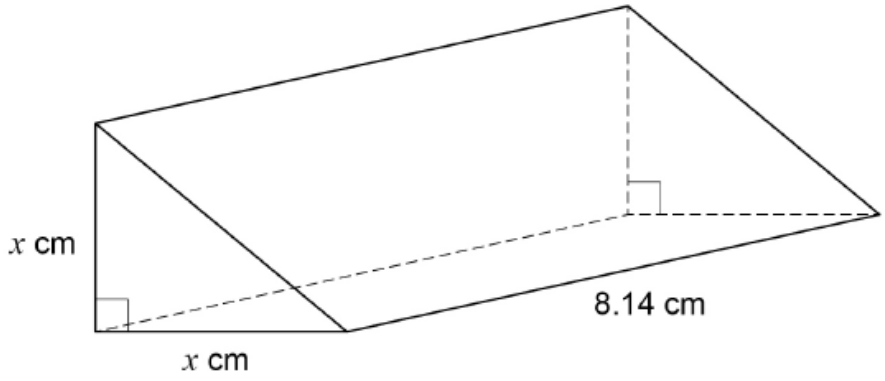
–3 5 –2 3 1

0 –3 –3 0 –3

–1 –1 –2 –3 1

5. June/2019/Paper_1H/No.13

The triangular cross section of a prism is an isosceles right-angled triangle.



The volume of the prism is 102 cm^3

Use approximations to estimate the value of x.

You **must** show your working.

[3 marks]

Answer _____

6. Nov/2019/Paper_1F/No.25

(a) A geometric progression starts 4 16

Work out the next term.

[1 mark]

Answer _____

(b) A Fibonacci-type sequence starts 3 –8

The sequence is continued by adding the previous two terms.

Work out the next **two** terms.

[2 marks]

Answer _____ and _____

7. Nov/2019/Paper_1H/No.6

(a) A geometric progression starts 4 16

Work out the next term.

[1 mark]

Answer _____

(b) A Fibonacci-type sequence starts 3 –8

The sequence is continued by adding the previous two terms.

Work out the next **two** terms.

[2 marks]

Answer _____ and _____

8. Nov/2019/Paper_1H/No.13

The nth term of a sequence is $\dfrac{n(n-4)}{\sqrt{n+3}}$

Work out the sum of the 1st and 6th terms.

[3 marks]

Answer _____